Entomological News

AND

PROCEEDINGS

OF THE

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OF THE

Academy of Natural Sciences of Philadelphia.

VOLUME XIII, 1902.

EDITOR
HENRY SKINNER, M. D.
PHILIP P. CALVERT, Ph.D., Associate Editor.

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LOGAN SQUARE.

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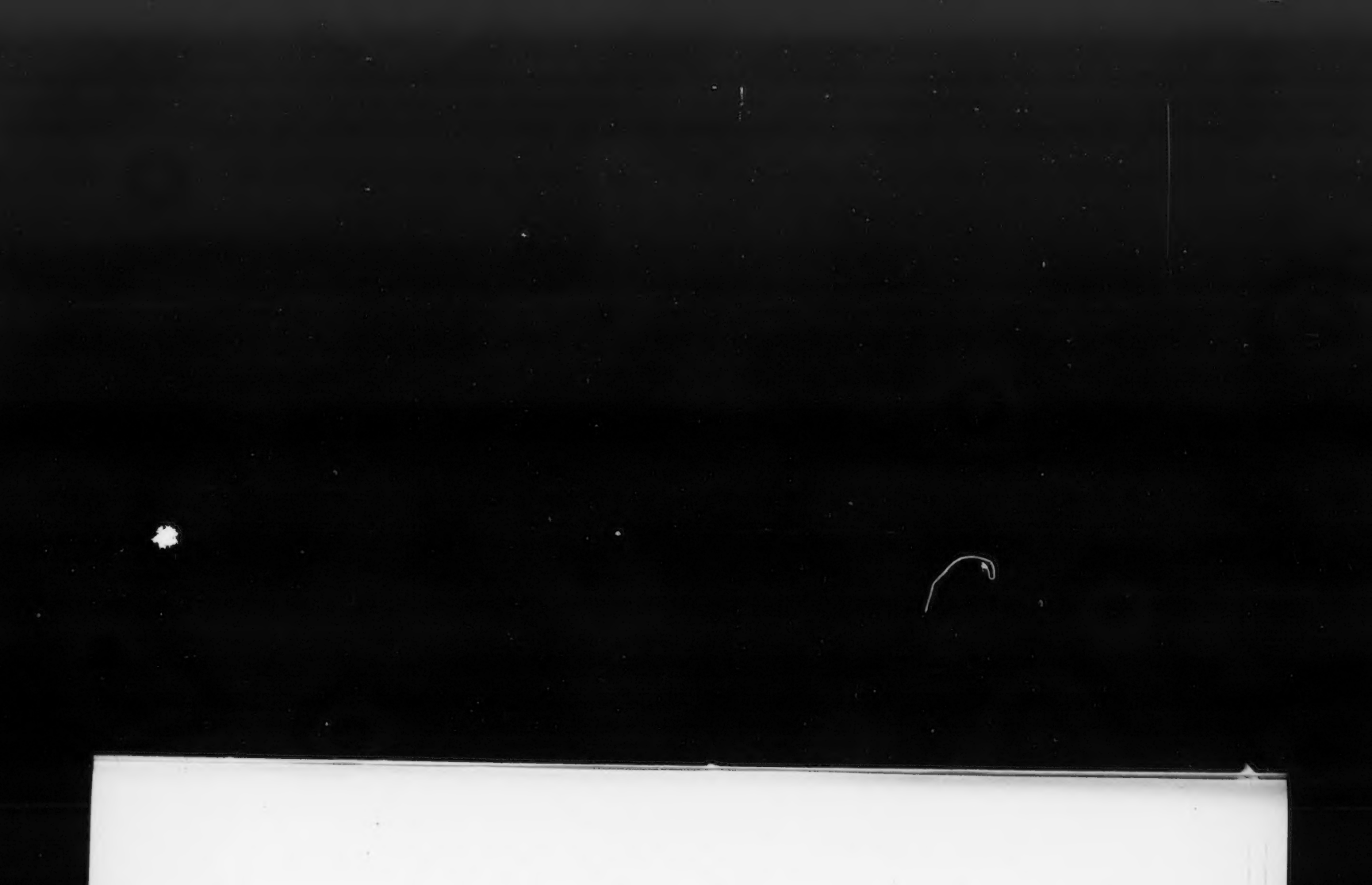

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ENTOMOLOGICAL NEWS

Quisnam sexcaudatus?

JANUARY, 1902.

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When Writing Please Mention "Entomological News."

Herman Strecker
Born at Philada. Pa.
March. 24. 1836.

ENTOMOLOGICAL NEWS

AND

PROCEEDINGS OF THE ENTOMOLOGICAL SECTION

ACADEMY OF NATURAL SCIENCES, PHILADELPHIA.

VOL. XIII. JANUARY, 1902. NO. 1.

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Ferdinand Heinrich Herman Strecker.

Ferdinand Heinrich Herman Strecker died at 7.55 A.M., November 30th, at his home, 1325 Mineral Spring Road, Reading, Pa.

He was standing at 6th and Penn about 6 P.M., Friday, the previous evening, waiting for a car, when he was stricken with apoplexy and fell. Friends went to his assistance and placed him in a cab, in which he was removed to his home. He never regained consciousness.

Deceased was 65 years of age. He is survived by his widow and two children, Mrs. Edwin L. Hettinger and Paul Strecker.

He had not been in the best of health for some weeks.

Dr. Strecker was of German parentage, and was born in Philadelphia, March 24, 1836. He inherited his fondness for scientific studies, and evinced this inclination at an early age. On his mother's side were three naturalists of note. They were Benjamin, Edward and Richard Kern.

Dr. Strecker was an architect, designer and sculptor by profession. He located in Reading when a boy, having accompanied his father, who was a prominent dealer in marble and marble worker of Reading at that time. Since then he fol-

lowed the pursuit of his father. As a sculptor he gained a wide and enviable reputation, and he produced many praiseworthy works of art.

He began in his twelfth year at his work as artist and sculptor, and labored hard since. All his literary and scientific labor, the immense correspondence attending the collecting of his butterflies, was done at night, his vocation as sculptor taking up the daylight hours.

He travelled a great deal, and in 1855–56 visited the West Indies, Mexico and Central America, to examine the old Aztec monuments and add to his collection.

His father, Ferdinand H. Strecker, was, during a period of ten years from 1846, a well-known sculptor in Reading. He was a native of Germany, and had a practical experience in the business twenty-six years in Munich, Rome and other large cities in Europe, and in Philadelphia, before he came to Reading. His delicate execution and masterly treatment of marble were remarkable. He had studied ideal sculpture under Antonia Canova, the famous artist and founder of a new school of Italian sculpture, who died in Venice in 1822.

Mr. Strecker came to America about 1835, and located in Philadelphia, where he carried on business until 1846, when he came to Reading. He died in 1856, and his talented son, Herman Strecker, succeeded him in business.

Dr. Strecker owned the largest, most valuable, and, in every way, the most remarkable public or private collection of butterflies and moths on the American continent.

The Strecker collection comprises over 200,000 specimens, and includes butterflies and moths whose haunts in life are on every portion of the discovered globe, not excepting the regions close to the poles, the hearts of the wildest forests of Africa, India, Australia, South America, the smaller islands of the Indian and Pacific Ocean.

In consideration of his scientific knowledge, Franklin and Marshall College some years ago conferred upon him the degree of Doctor of Philosophy.

In his earlier days, during his holiday hours, he made trips to Philadelphia, studied at the Library of the Academy of

Natural Sciencee all branches of natural history, birds, mammals, insects, plants, etc., but later devoted all his time to insects, and, finally, to lepidoptera only.

He will be remembered in the entomological world by his work entitled Lepidoptera, Rhopaloceres and Heteroceres, Indigenous and Exotic, with Descriptions and Colored Illustrations, which was commenced in 1872. It was published and illustrated by the author, the drawings being made on stone and colored by hand. Between the years 1872 and 1878 fifteen parts, containing fifteen plates, were gotten out. There were three supplementary parts published in the years 1898, 1899 and 1900. A single sheet was also published April 21, 1900, containing the description of *Neophasia epyaxa*. This work was a most valuable contribution to the subject, as the plates were excellent and they were published at a time when good figures of American insects were none too numerous. The figures of the genus *Catocala* were especially valuable, as were also those of the Lycænidæ. The work was published under difficulties, as the lithographic stone was cleaned for each plate, to save expense. The author wielded a trenchant pen, and had a very direct way of expressing what he desired to say. Some parts of this work show considerable literary ability. The poetical description of the haunts of *Papilio marchandii* is quite beautiful. The defense of the name *Jehovah* also shows talent for writing. His influence on the work of some of his contemporaries was, doubtless, considerable, as matters might have been worse if his strenuous objections had not been made to what he was pleased to call the species mill of one author, the generic phantasies of another, and the colossal egotism of a third. This work is in demand at the present time, and will, doubtless, always be considered one of merit in the literature of American lepidoptera.

In 1878 he published his Butterflies and Moths of North America, with full instructions for collecting, breeding, preparing, classifying, packing for shipment, and a Complete Synonymical Catalogue of Macrolepidoptera, with a full Bibliography, to which is added a Glossary of Terms and an Alphabetical and Descriptive List of Localities.

This work had a very considerable sale and evinces painstaking and careful work in compiling the literature. It shows remarkable knowledge of specific values and was the best work of the kind in this respect. Dr. Strecker had an accurate knowledge of entomological technic, and his example should not be lost. His collection would be a marvel to many in this respect. He had an interesting and striking personality, and was cordial, affable and full of anecdote. He was frequently visited by scientific men from this country and abroad, and his correspondence was immense. In his chosen field he ranked deservedly high. He has been criticised by some on account of his more than great desire to add to his collection, but this may be ascribed to the fact that his love and enthusiasm for the study were intense and never flagged for a moment, and obscured every other thought. Two of his favorite expressions were that "It is human nature, you know, to think of ourselves first, last and always," and "I never let the right hand know what the left hand does." Had it not been for such traits, many fine things in the collection would have been converted into *Anthrenus* ere this, and their value to the world would have been lost and scattered.

He was a remarkable man, and will be greatly missed by his entomological friends. The final disposition of his wonderful collection is not at present known.

Additional List of Insects Taken in Alpine Region of Mt. Washington.

By Annie Trumbull Slosson.

I was unable to visit Mt. Washington in 1900 and my usual list of captures—published annually since 1893—was omitted. But in this last summer, 1901, I again made two visits to the Summit, one in early July and one in August. The list of insects taken, and not included in former lists, follows: There are nearly 250 species, several of these and at least one genus new to science.

I acknowledge gratefully the assistance, in the preparation

of this list, of Messrs. Coquillett, Ashmead, Liebeck, Van Duzee, Fernald, Banks and Scudder.

LEPIDOPTERA.

Arctia parthenice *Kirby*.
Lophodonta ferruginea *Pack*.
Cosmia paleacea *Esp*.
Ypsia undularis *Dru*.
Teras variana *Fern*.
Gelechia lugubrella *Fab*.
Choreutis marginella. *Clem*.

HYMENOPTERA.

Teuthredindæ.

Cephaleia sp.
Fenusa rubi *Forbes*.
Pteronus ventralis *Say*.
sp.
sp.
Strongylogaster sp.
Macrophya externa *Say*.
pannosa *Say*.
albomaculatus *Nort*.
Tenthredopsis 14-punctata *Nort*.
sp.
Tenthredo sp.
sp.

Apoidea.

Osmia simillima *Sm*.

Sphecoidea.

Crabro maculatus *Fab*.
Xylocrabro slossonæ *Ashm*. n. sp.
Stigmus americanus *Pack*.

Proctotrypoidea.

Chelogynus henshawi *Ashm*.
Pantoclis n. sp.?
Aclesta rugosopetiolata *Ashm*.
Paramesius terminatus *Say*.
Hemilexodes rotundiceps *Ashm*. n. sp.
Galesus coxalis *Ashm*. n. sp.
Diapria erythropus *Ashm*.
Megaspilus alticola *Ashm*. n. sp.

Cynipoidea.

Periclistidea monticola *Ashm*. n. g. n. sp.
Andricus sp.

Chalcidoidea.

Monodontomerus eutechniæ *Ashm*.
Ormyrus ventricosus *Ashm*.
Chalcis tarsalis *D. T*.
Bruchophagus funebris *Haw*.
Homalotylus slossonæ *Ashm*. n. sp.
Roptrocerus xylophagorum *Ratz*.
Pteromalus fuscipes *Prov*.
Catolaccus tyloderma *Ashm*.
Cirrospilus immaculatus *Ashm*. n. sp.
Aprostocerus americanus *Ashm*.

Ichneumomoidea.

Trogus bolteri *Cr*.
Cratichneumon sp.
sp.
Amblyteles suturalis *Say*.
Notosemus sp.
sp.
Atractodes serpedontes *Ashm*.
Bathymetis sp.
sp.
Ephialtes gigas *Walsh*.
Glypta varipes *Cr*.
Exochus propinquus *Cr*.
Pammacra pallipes *Ashm*.
Scorpiorus flavopictus *Ashm* n. sp.
Hadrodactylus affinis *Ashm*. n. sp.
Scopasis monticola *Ashm*. n. sp.
Agrypon pædiscæ *Ashm*.
Atrometus flavifrons *Ashm*. n. sp.
Aperileptus clypeatus *Ashm*. n. sp.

Braconoidea.

Phænocarpa slossonæ *Ashm*. n. sp.
Aphæreta pallipes *Say*.
Meteorus gracilis *Prov*.

Macrocentrus longicornis *Prov.*
Urosigalphus armatus *Ashm.*
Chelonus sobrinus *Hald.*
Agathis femoratus *Prov.*
Microdus tricoloripes *Ashm.* n. sp.
latiannulipes *Ashm.* n.sp.
varipes *Cr.*
Apanteles glomeratus *Linn.*
Urogaster ensiger *Say.*

COLEOPTERA.

Carabidæ.

Calosoma calidum *Fab.*
Amara sp.
apricarius *Payk.*
chalcea *Dej.*
impuncticollis *Say.*
Lebia pumila *Dej.*
ornata *Say.*
Chlænius pennsylvanicus *Say.*
Acupalpus carus *Lec.*

Dytiscidæ.

Hydroporus modestus *Aubé.*
Agabus seriatus *Say.*

Silphidæ.

Silpha noveboracensis *Forst.*
Colon bidentatum *Sahlb.*

Pselaphidæ.

Tyrus humeralis *Aubé.*
Bryaxis propinqua *Lec.*

Staphylinidæ.

Homalota alpigrada *Fauv.* MSS.
sp.
sp.
Aleochara gracilicornis *Fauv.* MSS.
Philonthus fusiformis Melsh.
Xantholinus obscurus *Er.*
Euæsthetus sp.
Lathrobium simplex *Lec.*
Tachyporus nanus *Er.*
Boletobius dimidiatus *Er.*
cincticollis *Say.*
longiceps *Lec*
Acidota subcarinata *Er.*

Phalacridæ.

Phalacrus simplex *Lec.*
politus *Melsh.*

Coccinellidæ.

Scymnus caudalis *Lec.*

Mycetophagidæ.

Typhœa fumata *Linn.*

Histeridæ.

Hister lecontei *Mars.*

Latridiidæ.

Corticaria serrata *Payk.*
americana *Mann.*

Byrrhidæ.

Byrrhus pettitii *Horn.*

Dascyllidæ.

Macropogon rufipes *Horn*
Prionocyphon discoideus *Say.*

Elateridæ.

Deltometopus amœnicornis *Say.*
Hypocœlus terminalis *Lec.*
Adelocera obtecta *Say.*
Elater pedalis *Germ,*
luctuosus *Lec.*
Cryptohypnus sp.?
Pityobius anguinus *Lec.*
Asaphes memnonius *Hbst.*

Buprestidæ.

Buprestis fasciata *Fab.*
striata *Fab.*
Agrilus anxius *Gory.*
masculinus *Horn.*

Lampyridæ.

Podabrus extremus *Lec.*

Cleridæ.

Thaneroclerus sanguineus *Say.*
Hydnocera tabida *Lec.*
pallipennis *Say.*
Phyllobænus dislocatus *Say.*

Ptinidæ.

Trypopitys sericus *Say*.

Scarabæidæ.

Aphodius leopardus *Horn*.
Odontæus cornigerus *Melsh*.
Macrodactylus subspinosus *Fab*.

Chrysmelidæ.

Chlamys plicata *Fab*.
Haltica bimarginata *Say*.
Glyptina brunnea *Horn*.
Dibolia borealis *Chev*.
Psylliodes punctulata *Melsh*.

Lagriidæ.

Arthromacra ænea *Say*.

Melandryidæ.

Orchesia castanea *Melsh*.

Pythidæ.

Priognathus monilicornis *Rand*.

Œdemeridæ.

Asclera puncticollis *Say*.

Anthicidæ.

Anthicus spretus Lec.
Notoxus anchora *Hentz*.

Rhynchitidæ.

Rhynchites cyanellus *Lec*.

Curculionidæ.

Sitones flavescens *Marsh*.
Magdalis alutacea *Lec*.
Proctorus armatus *Lec*.

Scolytidæ.

Dryocœtes? sp?
Crypturgus atomus *Lec*.

DIPTERA.

Mycetophilidæ.

Macrocera inconcinna *Lw*.
Ceroplatus clausus *Coq*.
Polylepta leptogaster *Winnertz*.
Neoglaphyroptera ventralis *Say*.
Leja sororcula *Lw*.

Simulidæ.

Simulium venestum *Say*.

Bibionidæ.

Bibio gracilis *Walk*.
Plecia heteroptera *Say*.

Culicidæ.

Corethra plumicornis *Fab*.

Chironomidæ.

Chironomus modestus *Say*.
Orthocladius nivoriundus *Fitch*.

Tipulidæ.

Dicranomyia n. sp.?
Dicranomyia hæretica *O. S.*
Trichobola argus *Say*.
Linnophila adusta *O. S.*
Cylindrotoma americana *O. S.*
Tipula suspecta *Lw*.
Pachyrrhina nobilis *Lw*.

Stratiomyidæ.

Sargus decorus *Say*.

Dolichopodidæ.

Dolichopus calcaratus *Ald*.
cuprinas *Wied*.
n. sp.?
n. sp.?
Gymnopternus phyllophorus *Lw*.
Neurigona floridula *Wheeler*.
rubella *Lw*.
Hydrophorus glaber *Walk*.

Syrphidæ.

Rhingia nasica *Say*.

Pipunculidæ.

Pipunculus fuscus *Lw*.
nigripes *Lw*.
Chalarus spurius *Walk*.

Tabanidæ.

Tabanus astutus *O. S.*
microcephalus *O. S.*

Asilidæ.

Leptogaster badius *Lw*.

Bombylidæ.

Anthrax lateralis *Say.*

Empidæ.

Euhybus subjectus *Walk.*
Empis varipes *Lw.*
Rhamphomyia gilvipes *Lw.*
Hilara gracilis *Lw.*
femorata *Lw.*
Leptopeza flavipes *Meig.*

Platypezidæ.

Platypeza n. sp.
n. sp?

Tachinidæ.

Masicera chætoneura *Coq.*
Winthemia 4-pustulata *Fab.*

Anthomyidæ.

Phaonia sp.
sp.

Cordylurida.

Scatophaga nana *Lw.*

Helomyzridæ.

Leria fraterna *Lw.*

Psilidæ.

Psila frontalis *Coq*

Trypetidæ.

Tephritis albiceps *Lw.*

Lonchœdæ.

Palloptera superba *Lw.*

Heteroneuridæ.

Heteroneura melanostoma *Lw.*
Clusia spectabilis *Lw.*

Sepsidæ.

Themira putris *Linn.*

Ephydridæ.

Dichæta caudata *Fall.*
Hydrellia obscuriceps *Lw.*
Hydrina debilis *Lw.*
fuscicornis *Lw.*

Oeomyzidæ.

Anthomyza terminalis *Lw.*

Drosophilidæ.

Drosophila amoena *Lw.*
Scaptomyza apicata *Thom.*

Scinidæ.

Oscinis dorsalis *Lw.*
Chlorops procera *Lw.*

Phoridæ.

Phora fungicola *Coq.*

HEMIPTERA.

Heteroptera.

Geocoris borealis *Dallas.*
Crophius disconotus *Say.*
Trapezonotus n. sp.?
Megalonotus unus *Say.*
Lopidea marginata *Uhl.*
Lygus pabulinus *Linn.*
invitus *Say.*
sp.?
Orthops scuttellatus *Uhl.*
Aradus sp.
Nabis ferus *Linn.*
Salda humilis *Say.*
reperta *Uhl.*

Homoptera.

Gypona striata *Burm.*

NEUROPTERA.

Ephemerella sp.?
Anabolia bimaculata *Walk.*
Agapetus obscura *Walk.*
Mystacides nigra *Linn.*

ORTHOPTERA.

Nemobius fasciatus *Scudder.*

Letters from Thomas Say to John F. Melsheimer, 1816–1825.—X.

Philad^{a}. May 9th 1822—

Dear Sir!

Your much esteemed letter came duly to hand, & afforded me much pleasure I assure you; communications respecting the insects the United States yield me the highest gratification & therefore your letters are more acceptable than those of any of my correspondents. I should have reciprocated that letter long since, had I not been busily occupied with a portion of the labour of compiling the narrative of our journey to the Rocky Mountains. In addition to contributing my aid in the ordinary diatribe of the work, it falls to my lot to describe the new Quadripeds, birds & reptiles which we met with, as well as to give an account, both moral and physical, of the natives of the country through which we passed. The arranging and recording of the Meteorological observations, made chiefly by myself, also falls to my share of the duties, though the general narrative is written by our companion D^{r}. James. It will occupy two octavo volumes.*

The description of *Brentus dispar* as recorded in the books, corresponds very well with our species, when we take into view your excellent observations on the thoracic colour of the latter; but notwithstanding this coincidence, I am still perplexed with doubt as to their specific identity for the following reasons, viz. The *B. dispar* has been always acknowledged (I mean in the books), to be a South American insect, & I do not know that it has been, by any European Author, expressly stated to have been received from N. Amer^{a}. Latreille particularizes its native country to be Cayenne. Now Cayenne lies in the 4th or 5th degree of N. latitude, which is 36 degrees

* *Account of an expedition from Pittsburgh to the Rocky Mountains . . . . . under the command of Major Stephen H. Long. From the notes of Major Long, Mr. T. Say, ... compiled by Edwin James, ... ; 2 vols., Philadelphia, 1823.* Beyond his connection with the zoological data of this work, it does not seem to have been known that Say contributed such a large portion of it. In the preface he receives credit for his notes in a general way only.—W. J. F.

south of Pennsylvania, & in the geographical distribution of insects, we are led to believe that 30 degrees of latitude produces a total change in the insect species of countries, thus remote from each other. It would be proper to observe, however, that we have other insects which seem to be also inhabitants of S. America & I may here particularize those two species of *Phileurus* mentioned in our last letters.

Another cause of doubt to my mind, arises from the inspection of a figure of the *dispar* on plate 236 of the Encyclop. Methodique; this figure represents that insect to be more than double the size of our specimens, & of an entirely different form as respects proportional length, being much wider and more robust than our insect. If I could implicitely rely upon the accuracy of all the figures engraved in that work, I should have no hesitation in pronouncing upon the subject, & declaring our *Brentus* to be a distinct species; but, unfortunately those engravings, are, in many instances, very indifferent, & some of them convey false images of the species which they are intended to elucidate. The descn. which Fabr. gives of the *dispar* does not state the size of the insect (a defect which in a great degree reigns throughout his works) & is besides very brief; & as I have no other figure than that above referred to, nor a more copious description than that of Fabr. to which I can refer, I must stiil draw upon your familiar acquaintance with the writings of the German authors, as well as upon your own knowledge for further information respecting the specific identity or discrepance of the North & South American Insects which have been regarded as the *dispar*. I will only further remark on the characters of our specimens that the portion of the Fabrician description of "elytris acuminatis" which he attributes to the *dispar*, certainly does not accord with our insect—

* * * * * * *

I am perfectly convinced of the justice of your reasoning respecting *Lytta civerea* & that it would be improper to separate it from the genus.

I have sent you the numbers of the Journal of the Acad. Nat. Sciences regularly as they were published; did they all

come to hand. The 6th N° of the second volume is completed and shall be sent.

I remain as usual most respectfully
your friend & obedient Servent
Thomas Say

A Note on the Insect Collection of Thomas Say.

In 1834, Thomas Say left his collection of insects to the Academy of Natural Sciences of Philadelphia by verbal bequest. Subsequently, it was sent to Dr. Thaddeus William Harris, of Cambridge, Mass., presumably that it might receive the necessary care that only an experienced entomologist can give. This was prior to 1837.* Under date of July 16, 1838, in a letter to Dr. S. G. Morton, of the Academy, Dr. Harris says: "I have been obliged to *bake* a considerable part of the insects lately belonging to Mr. Say *twice*, and some of them *three times*, in order to destroy the vermin with which they are infested."

In March, 1842, the Say and other collections were returned to the Academy "in such a state of ruin and dilapidation as to be almost useless."†

Whether the collection was infested when first received by the Academy, or became so while in its possession prior to its transmission to Harris, or while under the care of this gentleman, it is now impossible to state. The collection remained in Mr. Harris's possession for at least five years, 1836, or 1837 to 1842, and in 1838, he stated that "a considerable part of the insects" were infested, necessitating baking.

The above facts are presented to refute the oft-repeated charge that Say's collection was allowed to go to ruin at the Academy of Natural Sciences of Philadelphia, and, in justice to Dr. Harris, it is probable that the collection was partially infested when sent to him. The responsibility for the loss of

* "Mr. Say's collection was catalogued by Dr. Harris in the same manner. Most of this sort of work was apparently done in 1837."—*Entomological Correspondence of Thaddeus William Harris, M.D., Edited by Samuel H. Scudder.*

† *A Notice of the . . . . . Academy of Natural Sciences of Philadelphia, by W. S. W. Ruschenberger. 1852.*

the collection should not be placed with the Academy—at least from the facts now at hand.

There is now but one insect type of Say's in the collection of the Academy, a specimen of *Chionobas semidea* [= *Hipparchia semidea* Say], being the one from which the illustration (Plate 50) of the *American Entomology* was made by T. R. Peale. With the specimen is this inscription: "*Hipparchia semidea* Say, Am. Ent. v. 3, No. 5. The sp^{n} is the one drawn for my friend T. Say. 1828—T. R. Peale."—W. J. F.

A List of the Hemiptera Heteroptera of the Vicinity of Wood's Holl, Massachusetts.

By THOS. H. MONTGOMERY, JR.

University of Pennsylvania, Philadelphia.

The following list is based upon a collection made by the author from the middle of July to the middle of August, 1900. All the collecting was done upon the mainland within a two-mile radius of the town of Wood's Holl. Wood's Holl is situated at the most southern point of the peninsula of Cape Cod, at the point of union of Buzzard's Bay and Vineyard Sound.

I am indebted to Dr. Philip R. Uhler of Baltimore and Mr. Charles W. Johnson of Philadelphia for aid in the determination of a number of the species; indeed, without the help of these entomologists I could not have determined all the species, since my own interest in the collection lay in the anatomical rather than the faunistic standpoint.

The list is probably very far from being a complete one, yet I believe it will be found to contain all the commoner species found during the time when the collection was made, so that it may be of some value to students of the geographical distribution of the group, particularly since to my knowledge no list has been published for this region.

SCUTELLERIDÆ.

Eurygaster alternatus *Say.*

PENTATOMIDÆ.

Perillus confluens *H. S.*
Podisus spinosus *Dall.*
Mormidea lugens *Fabr.*
Euchistus tristigmus *Say.*
E. variolarius *Pal. Beauv.*
Cœnus delius *Say.*
Trichopepla semivittata *Say.*
Pentatoma saucia *Say.*

COREIDÆ.

Corynocoris distinctus *Dall.*
Anasa tristis *DeG.*
Aldyus eurinus *Say.*
A. pilosulus *H. S.*
Protenor belfragei *Hagl.*
Harmostes reflexulus *Stal.* var.
Corizus alternatus *Say.*
C. lateralis *Say* var.

BERYTIDÆ.

Jalysus spinosus *Say.*

LYGÆIDÆ.

Belonochilus numericus *Say.*
Ischnorhynchus didymus *Zett.*
Cymus luridus *Stal.*
C. angustatus *Stal.*
Ischnodemus falicus *Say.*
Blissus leucopterus *Say.*
Geocoris fuliginosus *Say.*
Œdancala dorsalis *Say.*
Ligyrocoris silvestris *Linn.*
L. constrictus *Say.*
Myodocha serripes *Oliv.*
Ptochiomera nodosa *Say.*
Cnemodus mavortius *Say.*
Eremocoris ferus *Say.*
Peliopelta abbreviata *Thl.*
Lygæus turcicus *Fabr.*
Lygæosoma parvula *Uhl.*

CAPSIDÆ.

Brachytropis calcarata *Fall,*
Trigonotylus ruficornis *Fall.*
Leptopterna dolabrata *Linn.*
Collaria meilleurii *Prov.*
oculata *Keut.*
Resthenia insignis *Say.*
Lopidea media *Say.*
Phytocoris eximins *Reut.*
Compsocerocoris annulicornis *Ren.*
Calocoris rapidus *Say.*
Lygus pratensis *Linn.*
Lygus sp.
Poeciloscytus basalis *Reut.*
Hyaliodes vitripennis *Say.*
Diommatus congrex *Uhl.*
Oncotylus decolor *Fall.*
Macrotylus n. sp.?
Plagiognathus politus *Uhl.*
Coquillettia amoena *Uhl.*
Tuponia n. sp.?
Sericoplanes occulatus *Rent.*

ACANTHIIDÆ.

Triphleps insidiosus *Say.*
Acanthia lectularia *Linn.*

TINGITIDÆ.

Tingis clavata *Stal.*
Corythuca fnssigera *Stal.*
Leptostyla oblonga *Say.*

PHYMATIDÆ.

Phymata sp.

NABIDÆ.

Coriscus ferus *Linn.* var.
annulatus *Reut.*

LIMNOBATIDÆ.

Limnobates lineata *Say.*

HYDROBATIDÆ.

Limnotrechus marginatus *Say.*

NAUCORIDÆ.

Pelocoris femorata *Pal. Beauv.*

BELOSTOMATIDÆ.

Zaitha aurantiacum *Leidy* (fresh-water pond near Falmouth).

NEPIDÆ.

Ranatra fusca *Pal. Beauv.*

NOTONECTIDÆ.

Notonecta undulata *Say.*

CORISIDÆ.

Corisa verticalis *Fieb.*
harrisii *Uhl.*
signata *Fieb.*

A New Aptenopedes from Florida.

By JAMES A. G. REHN.

Aptenopedes clara n. sp.

Type, ♂; Miami, Dade County, Florida; January 18, 1899. Collected by S. N. Rhoads. Collection of James A. G. Rehn.

Allied to *A. sphenarioides* Scudder and *A. rufovittata* Scudder, but differing from the former in the very much abbreviated furcula and the much more elongate cerci, and from the latter in the longer and more decidedly falcate cerci.

Size medium; body moderately elongate. Head somewhat produced; frontal costa extending to the clypeus, sulcate through the entire length; eyes elongato-ovate, separated by a very narrow interspace; antennæ somewhat heavy, uniform, terminal joint blunt. Pronotum cylindrical, expanding somewhat posteriorly, above heavily punctate, the lateral lobes moderately punctate, anterior margin convex, posterior triangularly emarginate; median carina well marked; lateral carinæ subobsolete, represented by a callous ridge; lateral lobes longer than high, the anterior and lower margin bearing a heavy, thickened margin. Tegmina lanceolate, reaching to the end of the first abdominal segment. Abdomen moderately elongate. Subgenital plate large, rotundate in outline viewed from above, border hemispherical, internally with a median longitudinally placed tuberosity, the anterior portion being considerably elevated; inferiorly considerably excavated. Supranal plate with sinuous borders, the basal half narrowly sulcate in the central portion, the whole plate bearing a pair of laterally placed deep sulcations extending to near the apex; furcula hardly recognizable. Cerci elongate, basal half tapering, apical half decurved, falcate, bent inward, displaying a very marked internal shoulder. Legs stoutly built, posterior femora just exceeding the extremity of the abdomen. General color apple green (Ridgway's Nomenclature, Pl. X), ranging much lighter green on the sides and lower surface; a line on each side extending from the eye to the tip of the tegmen and the lower border of the lateral lobe of the pronotum creamy-white, one from the posterior border of the pronotum to the extremity of the abdomen pinkish; each stripe inferiorly bordered by a blackish line, the median carina and the superior borders of the lateral stripes on the pronotum marked with black. Face and antennæ dull purplish; anterior and median limbs ferrugineous; posterior femora with the superior external section blackish-purple; tibiæ violaceous. Measurements:

Length of body	20.5 mm.
Length of pronotum	4.5 "
Greatest width of pronotum	3.5 "
Length of tegmina	4.5 "
Length of posterior femora	11 "

Four specimens examined, all males from the type locality. Of these specimens three were collected by Mr. Rhoads in the winter (January) of 1899, and are now in the author's collection, and the remaining one, collected by Mr. Philip Laurent in the spring of 1901, was submitted to me for examination by Mr. C. Few Seiss.

New Species of Rhopalocera.

By HENRY SKINNER.

Lycaena neurona n. sp.

♀.—Expands 20 mm. to 25 mm. Primaries black, with the nerves of the wing orange. The nerves terminate in swellings or slight expansions parallel to the outer margin. In two specimens these swellings coalesce. The costa is orange in two specimens. Secondaries black, with a border of orange 2 mm. in width. This border has five small black dots on it parallel to the margin. The nerves extending toward the base are orange for a short distance.

Underside.—Primaries are of a light ash color, with a marginal row of six spots, but much better defined. Still further in is a "dipper"-like row of spots, six in number. There is a spot in the cell and one at its end. Secondaries are of same color, and have a marginal row of five spots surrounded by rings of silver. Interior to these is a row of five orange crescents edged on the inner side with black. In the central area of wing are ten black spots and a comma-like dash in the cell.

Hab.—Doble, San Bernandino County, Cal., August.

Received through the courtesy of Prof. John B. Smith. This species resembles the female of *Lycæna acmon*, but is smaller and easily differentiated by the character of the neuration. There is one specimen in which the nervures are devoid of orange.

Lycaena chlorina n sp.

♀.—Expands 32 mm. Primaries and secondaries of a fawn color; this is true, at least, where the wing has been somewhat rubbed. Overlying this fawn color is an iridescent, very light green. The primaries are immaculate and the secondaries have a marginal border of orange 2 m. in width. This border has on it five black dots parallel to the margin.

Underside.—Primaries sordid white, with the usual disposition of black spots. Secondaries have a marginal row of five black spots surrounded by black on the inner side. There are ten spots in the central area and a dash at end of the cell.

Hab.—Tehachapi, Cala. July 6th.

Chrysomphalus agavis as a Pest.—This scale, which infests the *Agave* in Mexico was discovered by Koebele, and only published in 1893. I have just received specimens of it from Mr. A. L. Herrera, with the statement that it is quite a pest in the State of Puebla, so much so that they are obliged to take measures for its destruction.—T. D. A. COCKERELL.

ENTOMOLOGICAL NEWS.

[The Conductors of ENTOMOLOGICAL NEWS solicit and will thankfully receive items of news likely to interest its readers from any source. The author's name will be given in each case, for the information of cataloguers and bibliographers.]

To Contributors.—All contributions will be considered and passed upon at our earliest convenience, and, as far as may be, will be published according to date of reception. ENTOMOLOGICAL NEWS has reached a circulation, both in numbers and circumference, as to make it necessary to put "copy" into the hands of the printer, for each number, three weeks before date of issue. This should be remembered in sending special or important matter for a certain issue. Twenty-five "extras," without change in form, will be given free, when they are wanted; and this should be so stated on the MS., along with the number desired. The receipt of all papers will be acknowledged.—ED.

PHILADELPHIA, PA., JANUARY, 1902.

Editor ENTOMOLOGICAL NEWS:

I have been much interested in your numerous articles in regard to the importance and scientific value of *exact locality* and date labels on specimens, and heartily endorse your efforts to persuade collectors to be more careful in this direction; but are you not aware that there is more than carelessness at the bottom of this matter in some, if not a great many, cases? I have specimens that I had sent out with *printed* New Brighton, Pa., labels on them, come back to me later with West Pa., and others with simply Pa. written on them.

As it requires more *carefulness* to exchange the labels than it does to *let them alone*, I fear you must look for some other cause than *carelessness* to account for *some*, at least, of these indefinite labels.

Can it be possible that we have some among us who are so *selfish*, so illiberal, so *small* that they fear their correspondent will ascertain by whom the specimen was taken, and go direct to headquarters for such species in future, cutting out *his smallness* as a *stand between*, collecting toll from both parties? I sincerely hope not, yet the mutilated labels on exchange specimens would indicate that such there be.

Liberality in dealing in our beautiful and most fascinating study, as well as all other pursuits in life, is the "winning card." Let us hope it will in the near future be universally followed.

HARRY D. MERRICK.

It seems incredible that people calling themselves entomologists should be guilty of such a crime against science. This thing is practiced to prevent their entomological friends from knowing whence the specimens come. We sincerely hope that the people who adopt such methods will give up natural history and collect old shoes and hats, as they are certainly not interested in the advancement of entomology. A knowledge of the exact spot where an insect is found and the date of capture are most important and absolutely essential for the elucidation of many entomological problems.

We are glad to say that in Philadelphia, when an entomologist discovers a new or interesting locality or takes an unrecorded species, his first impulse is to make it known to his fellow-students and collectors. We are sorry to say this is not the case in some other places. We may also say, in passing, that we have coined a new word, "Sloppydoptera," which has reference to specimens captured with a baseball bat or temporarily loaned to the new baby as playthings before being "sent out."

NOTICE.—If you find a subscription blank in your NEWS and you have not paid your subscription for 1902, use the blank at once, or else write us that you do not care to continue your subscription. If you have already paid your subscription give or send the blank to some friend interested in entomology.

MR. WM. J. FOX, librarian of the American Entomological Society, reports that the library contains 3,160 volumes. This does not include the fine entomological library of the Academy of Natural Sciences of Philadelphia. These libraries, in the same building, contain the best and most complete collection of entomological works on this continent.

MYTILASPIS BECKII IN CALIFORNIA.—Last July, at Downey, Los Angeles County, California, I had an opportunity to examine an orange orchard. I was greatly interested to find *Mytilaspis beckii* (which, it used to be said, would not live in California) excessively abundant and injurious on the leaves and fruit. On the same trees the old California pests *Saissetia oleæ*, *Aspidiotus aurantii* and *Icerya purchasi* were also present, but in such insignificant numbers that all three combined would not do any appreciable damage. I had difficulty in getting enough of the *Iccrya* for certain identification. I do not know how widespread this condition of affairs may be; Dr. Howard, to whom I mentioned it, told me it was new to him.—T. D. A. COCKERELL.

Entomological Literature.

COMPILED BY HENRY L. VIERECK AND JAMES A. G. REHN.

Under the above head it is intended to mention papers received at the Academy of Natural Sciences of Philadelphia pertaining to the Entomology of the Americas (North and South). Articles irrelevant to American entomology will not be noted. Contributions to the anatomy, physiology and embryology of insects, however, relating to American or exotic species, will be recorded. The numbers in HEAVY-FACED TYPE refer to the journals, as numbered in the following list, in which the papers are published; * denotes that the paper in question contains descriptions of new North American forms. Titles of all articles in foreign languages are translated into English; usually such articles are written in the same language as the title of the journal containing them, but when such articles are in other languages than English, French, German or Italian, this fact is indicated in brackets.

3. The American Naturalist, Cambridge, Mass., '01.—**4.** The Canadian Entomologist, London, Ont., Nov., '01.—**5.** Psyche, Cambridge, Mass., Nov., '01.—**8.** Entomologists' Monthly Magazine, London (2), xii, '01.—**9.** The Entomologist, London, xxxiv, '01.—**11.** Annals and Magazine of Natural History, London, '01.—**14.** Proceedings of the Zoological Society of London, '01, pt. 2.—**21.** The Entomologists' Record and Journal of Variation, London, xiii, '01.—**22.** Zoologischer Anzeiger, Leipsic, '01.—**25.** Bolletino dei Musei di Zoologica ed Anatomia Comparata d. R. Universita di Torino, xvi, '01.—**50.** Proceedings of the United States National Museum, Washington, xxiv.—**55.** Le Naturaliste, Paris (2), xxiii, '01.—**58.**—Revista Chilena de Historia Natural, Valparaiso, v, '01.—**62.** Konglike Svenska Vetenskaps-Akademiens: Handlingar, Stockholm, xxxiv.—**68.** Science, New York (new series), xiv, '01.—**81.** Biologisches Centralblatt, Erlangen, xxi, '01.—**89a.** Zoologische Jahrbücher, Abtheilung für Anatomie, Jena, Bd. xv, Heft 3, '01.—**97.** Zeitschift für Wissenschafliche Zoologie, Leipsig, Bd. lxx, Heft 2, '01.—**103p.** Occasional Papers of the California Academy of Sciences, San Francisco, viii, '01.—**112.** Bulletin of the New York State Museum, Albany, ix, '01.—**125.** The British Bee Journal, London, xxix, '01.—**132.** Popular Science, New York, '01.—**140.** Proceedings of the Washington Academy of Sciences, iii, '01.—**152.** Bulletin of the Agricultural Experiment Station of the University of California, Sacremento, Bull. 135, '01.—**153.** Bulletin of the American Museum of Natural History, New York, xiv, '01.—**154.** Annual report of the Smithsonian Institution, Washington, '01.—**155.** Nova Acta Academiæ Cæsareæ Leopoldius Carolinæ Germanicæ Naturæ Curiosorum, Halle, lxxvii, '01.

THE GENERAL SUBJECT.—Brunetti, E. On labelling insects, **25,** no. 386.—**Burr, M.** A faunistic island—Orthoptera at Oberweiden, **21,** Nov.—**Cockerell, T. D. A.** Some insects of the Hudsonian Zone in New Mexico, **5,** Dec.—**Comstock** and **Kellogg.** Elements of Insect Anatomy. Third Edition, Revised. See Review Post.—**Curreri, G.** Upon the respiration in some aquatic insects. Bollettino Societa Zoologica Italiana, Rome, ser. 2, vol. II, fasc 2.—**Hertwig, O.** The growth of Biology in the nineteenth

century, **154.**—**Linden, Gräfin von.** The Wing Markings of Insects, **81,** no. 22.—**Marshall, Guy A. K.** Some Experiments in Seasonal Dimorphism, **11,** Nov.—**Needham, J. J.** and **Betten, C.** Aquatic insects in the Adirondacks, pls., **112.**—**Radl, Em.** Researches in the light-reaction of Arthropods. Archiv für die gesammte Physiologie der mensche und der Thiere, Bonn, Nov. 1, 1901.—**Shelford, R.** Exhibition of a series of lantern-slides illustrative of mimicry amongst Bornean insects, **14.**—**Wasman, E.** Are there matter of fact species which at the present time are still in the grasp of the line of development? Conjointly with general remarks on the development of Mymerophilidæ and Termitophilidæ and on the existence of Symphilidæ, **81,** no. 22.

ECONOMIC ENTOMOLOGY.—**Fletcher, J.** Farm Pests—Fodder Grasses. Select Standing Committee on Agriculture and Colonization, Ottawa, '01. Advance sheet Committee's Final Report.—**Fletcher, F.** Report of the Entomologist and Botanist. Canada Dept. of Agric. Central Experimental Farm, from Ann. Rep. on Experimental Farms for the year 1901, Ottawa, '01.—**Gillette, C. P.** Report of the Entomologist for 1900. Thirteenth Annual Report of the Colorado Agricultural Experiment Station, Fort Collins.—**Henshaw, S.** Report on the Entomological Department, Annual Report, Museum of Comparative Zoology, Harvard College, 1900-1901, Cambridge, Mass.

ARACHNIDA.—**Banks, N.** Some spiders and other Arachnida from Porto Rico, * 1 pl., 50.—**Cambridge, F. O. P.** A Revision of the Genera of the Araneæ or Spiders, with reference to their Type Species, **11,** Nov.—**Peckham, G. W.** On spiders of the family *Attidæ* found in Jamaica, **14.**—**Pocock, R. T.** Exhibition of, and remarks upon, nest of a tree Trap door Spider from Rio Janeiro, **14.**

MYRIOPODA.—**Chamberlin, R. V.** List of the Myriopod family *Lithobiidæ* of Salt Lake County, Utah, **50.**—**Richardson, H.** Papers from the Hopkins Stanford Galapagos Expedition, 1898-1899. Entomological Results (6). The Isopods, **140.**—**Verhoeff, K. W.** Contributions to a knowledge of the Palæarctic Myriopoda, xvi. Essay on comparative Morphology System and Geography of Chilopoda, Pl., **155.**—**Verhoeff, K. W.** Upon the occurrence of the skin in Diplopods, **155.**

THYSANURA.—**Banks, N.** Papers from the Hopkins Stanford Galapagos Expedition, 1898-1899. Entomological Results (5). Thysanura and Termitidæ, **140.**

EPHEMERIDA.—**Needham, J. G.** Ephemerida in Adirondacks. See General Subject, **112.**

ODONATA.—**Needham, J. G.** Odonata in Adirondacks. See General Subject, **112.**

ORTHOPTERA.—**Scudder, S. H.** Distribution of *Cryptocercus punctulatus*, **5,** Dec., 1901.—**Terry, F. W.** Daplication of the auditory organs in Thamuotrizon cinereus L., **21,** Nov.

NEUROPTERA.—**Bank, N.** A new genus of Myrmeleonidæ, Dec., **4.**—

Banks, N. Neuropteroid insects. See General Subject—**Needham, J. G.** Neuroptera in Adirondacks. See General Subject, **211.**

PLECOPTERA.—Needham, J. G. Plecoptera in Adirondacks. See General Subject, **112.**

ISOPTERA.—Sjostedt, Y. Monograph of the African Termites. Pls., **62.—Banks, N.** Papers from the Hopkins Stanford Galapagos Expedition, 1898-1899, v. Entomological Results (5). Thysanura and Termitidæ, **140.**

PHYSOPODA.—Webster, F. M. The Onion Thrips. Journal of the Columbus Horticultural Society, Vol xvi, No. 3, Nov., 1901.

HEMIPTERA.—Cockerell, T. D. A. A new Mealy-bug on grass-roots, **4,** Dec.—**Conradi, Albert F.** Toads killed by Squash-Bugs, **68.—Felt, E. P.** Scale insects of importance and list of the species in New York State, **112.—Foex, J.** The Phylloxera (in Spanish), **58,** no. 10.—**Hempel, Adolph.** A Preliminary Report on some new Brazilian Hemiptera, **11,** Nov.—**Imhof, O. E.**—Anatomy of Cicada, **81,** no. 22.—**King, G. B.** The Coccidæ of British North America,* **4,** Dec.—**Kirkaldy, G. W.** Notes on the Division Veliiaria (= Subfam. Velidæ, Leth. and Sev.), **9,** Nov.—**Verrill, A. H.** The birth of a *Cicada* figs, **132,** Dec.—**Webster, F. M.** An eight year study of Chinch bug outbreaks in Ohio. Proc. Twenty-second Annual Meeting of Soc. for Promotion Agric. Sci., Nov., 1901.

TRICHOPTERA.—Betten, C. Trichoptera in Adirondacks. See General Subject, **112.—Zander, Von Enoch.** Contribution to the morphology of the male genitalia of Trichoptera, **97.**

COLEOPTERA.—Aaron, S. F. The cadelle beetle (*Tenebrioides mauritanicus*), **132,** Oct.—**Davis, C. A.** Insects of Rhode Island (Coleoptera), 1901.—**Fall, H. C.** List of the Coleoptera of Southern California, with Notes on Habits and Distribution and Descriptions of New Species,* **03p.**—**Fall, H. C.** A change of name, **4,** Dec.—**Lewis, G.** On New Species of Histeridæ,* **11,** Nov.—**Tournier, G.** Leg and antennæ regeneration by beetles, and their attendant appearances, **22.—Tutt, J. W.** Migration and dispersal of Insects : Coleoptera, **11,** Nov.

DIPTERA.—Coquillett, D. W. Original descriptions of new Diptera, **112. Escherich, K.** Concerning the formation of "Keimblätter," in the Muscidæ, **155.—Needham, J. G.** Diptera in Adirondacks. See General Subject, **112.—Osten Sacken, C. R.** Mosquito swarms responsive to sound, **8,** Dec.—**Osten Sacken, C. R.** The two methods of determining Diptera, **8,** Dec.—**Sternberg, Geo. M.** Transmission of yellow fever by mosquitoes, **154.—Wahl, Von Bruno.** Upon the development of the "hypodermalen Imaginalscheiben" in the thorax and abdomen of the larva of *Eristalis* Latr., **97.—Wasman, S. J.** Termittoxenia, a new wingless Diptera genus from Termite nests. Part II, **97.—Winn, A. F.** Attack of Asilus fly on Colias philodice **4,** Dec.

LEPIDOPTERA.—Beutenmüller, W. Descriptive Catalogue of the Noctuidæ found within fifty miles of New York City, **153.—Butler, Arthur G.**

On Names Applied to Certain Species of the Pierid Genus *Catasticta*, **9,** Nov.—**Clarke, W. T.** The Potato Worm in California, *Gelechia operculella* Zell., **152.**—**Dognin, Paul.** Description of New South American Lepidoptera, **55,** Nov. 1.—**Dyar, H. G.** Life Histories of North American Geometridæ, xxvii, **5,** Dec.—**Gibson, A.** Life History of Arctia virguncula, **4,** Dec.—**Gillette, C. P.** How to Fight the Codling Moth. Press Bulletin, No. 11, Colorado Agric. Exper. Station, Fort Collins, Apr. 1901.—**Grote, A. R.** Note on the generic title Burtia, **4,** Dec.—**Lyman, H. H.** A new *Gortyna*, and notes on the Genus, Dec. **4.**—**Packerd, A. S.** On the larval forms of several exotic Ceratocampid Moths, **5,** Dec.—**Pagenstecher, A.** Lepidoptera Rhopalocera family Libytheidæ. Specimen Sheet Genera Insectorum.—**Stitz, K.** The Genital apparatus of Microlepidoptera. **89a.**—**Weeks, A. G.** Description of seven new butterflies from Bolivia. Proc. of the New England Zool. Club, vol. ii, Nov. 22, 1901.—**Weeks, A. G.** New diurnal Lepidoptera from South America, **4,** Dec.

HYMENOPTERA.—Anon. Why it must be dark in the bee-hive, **84,** no. 46.—**Ashmead, W. H.** Description of five new Parasitic Hymenoptera, **112.**—**Brice, H. W.** Bees, Wasps and Bacilli. Some notes, **125.**— **Cockerell, T. D. A.** Species of Brachycistis from S. California. Apoidea.* See General Subject, **4,** Dec.—**Correspondence.** The brains of the bee, **125.**— **Correspondence.** Wasps and their nests. American Bee-Keeping, **125.**— **Hamlyn-Harris, R.** Biology of the honey-bee, **125.**—**Hamlyn-Harris, R.** Biology of the honey-bee ; its development during the Nineteenth Century, **125.**—**Harrington, W. H.** Note on Bacus, **4,** Dec.—**MacGillivray.** List and two new species of saw flies, **125.**—**Sladen, F. W. L.** Bee-Keeping in America. The Pan-American Expositon at Buffalo, **125. Wheeler, W. M.** The Parasitic Origin of Macrœrgates among Ants, **3,** Nov.

The Elements of Insect Anatomy. An Outline for the Use of Students in Entomological Laboratories. By John Henry Comstock, Professor of General Invertebrate Zoology in Cornell University, and Vernon L. Kellogg, Professor of Entomology in Leland Stanford, Jr., University. Third Edition, Revised. Comstock Publisbing Co., Ithaca., N. Y., 1901. This is a work of 139 pages and index. The fact that two editions have been exhausted speaks well for the value of the book. The modern terms used for denoting the position of various parts are a decided advance over the former ambiguous terms, and we hope all entomologists will adopt the newer system. The external anatomy of a common locust is given in detail. The cockroach is also used to illustrate the external parts. *Corydalis cornuta* is used as an example in studying the internal anatomy of an insect. A valuable feature is the using for study insects that have a wide distribution, or in some cases species are selected from both the eastern and western parts of the United States. There is an important chapter on insect histology which gives methods of staining and imbedding for sections. The work is evidently the outcome of a

ripe experience in teaching this part of anatomy and we can heartily recommend it. More text illustrations would be useful for beginners who take up the work without the aid of a teacher.—H. S.

In the December NEWS we noticed an important paper on one of the chief groups of aquatic insects, the Odonata Anisoptera of Illinois. Now a still more extensive article, dealing with these and other fresh-water hexapods, is presented to us in Bulletin 47 of the New York State Museum, under the title "Aquatic Insects in the Adirondacks, a study conducted at the Entomologic Field Station, Saranac Inn, N. Y., under the direction of E. P. Felt, State Entomologist," by James G. Needham and Cornelius Batten. Albany, 1901. Pp. 383-596, 42 text figures, 36 plates, 6 of them colored.

In partial fulfillment of instructions "To collect and study the habits of aquatic insects, paying special attention to the conditions necessary for the existence of the various species, their relative value as food for fishes, the relations of the forms to each other, and their life histories," the authors report that they have added extensive and important collections, especially of life-history material, to the State Mnseum at Albany; made some study of the place of aquatic insects in natural societies by application of qualitative and qnantitative methods (Part II, pp. 400-410); gathered a few data on the reproductive capacity of insects (p. 394) and on the food relations of insects and fishes (pp. 395-6). But their print cipal achievement has been the working out, by rearings, with more or less completeness, of the life histories of about one hundred species of aquatic insects, the immature stages of most of which are described in Part III (pp. 410-589), viz., 2 stone-flies (Perlidæ, pp. 412-418), 7 may-flies (Ephemeridæ, pp. 418-429) representing all the genera found in New York, 62 dragonflies (Odonata Anisoptera, pp. 429-540), 4 Neuroptera (2 Sialidæ, 2 Hemerobiidæ, pp. 540-561), 4 caddis-flies (Trichoptera, pp. 561-573), 5 Diptera, (pp. 573-582) and 2 beetles. There are keys to orders of aquatic insect larvæ, to genera of nymphs of Ephemerida, to families, subfamilies, genera and species of images and nymphs of Odonata Anisoptera and Neuroptera, and to families of larvæ of Trichoptera. In the Odonata one new variety (*Gomphus descriptus borealis*) and two new genera (*Helocordulia* for *Cordulia uhleri* Selys and *selysii* Uhler, *Dorocordulia* for *C. libera* Selys, *lepida* Selys and *lintneri* Hagen), in the Neuroptera two new species (*Sisyra umbrata*, *Climacia dictyona*) are founded by Prof. Needham, the characters of both imagos and nymphs or larvæ being given. Messrs. Macgillivray, Coquillett and Ashmead furnish descriptions of new species of saw-flies (Tenthredinidæ), Diptera and Hymenoptera, respectively, based on imagos (pp. 584-589); Mr. Betten wrote the chapter on Trichoptera; all the rest of the bulletin is by the senior author. The figures are mostly very good and useful, but either artist or lithographer is inexcusable for the wretched reproduction of the venation on Plate 10.

As will be seen from the above summary, the largest part of the work deals with the Odonata Anisoptera. This is the only part which the writer is able to discuss, but space forbids more than pointing out these features; Nymphs representing every genus, excepting *Gomphæschna* and *Micrathyria*, and of 62* out of 80 species occurring in New York are described. New characters are used in many instances to define the various groups. Considerable differences exist between the terminology of the larger groups and the keys here used and those employed in the Illinois bulletin; thus, Macromiinæ here apparently corresponds to Synthemiinæ there. All these innovations must be studied by comparison with material from other regions and of other groups.

Prof. Needham has unquestionably done more for the knowledge of the early stages of the Odonata than any other who has ever paid attention to this subject. May he succeed in a like treatment of the Odonata Zygoptera!—P. P. CALVERT.

NOTE ON ARADUS NIGER STAL.—On September 22d, 1901, while collecting in the woods about ten miles south of Buffalo, I came across a little colony of a small black *Aradus* under the loose bark of a partially rotten log of the white pine. As the species seemed a little different from any *Aradus* ordinarily found here, I searched the whole log, and took two adults and about half a dozen young in various stages of development. On reaching home I looked up the identity of my capture, and was surprised to find that the species was *Aradus* (*Quilnus*) *niger* Stal. This species was described by Stal in the Enumeratio Hemipterorum about twenty-five years ago, and, as I could find no mention of its having been observed by later students, I thought it an interesting capture, and made a few notes for future publication; but on receipt of the October ENTOMOLOGICAL NEWS, I saw that Mr. Otto Heidemann had just published a notice of this insect in the Proceedings of the Entomological Society of Washington. This paper probably gives all I had intended to say in regard to the species; so I will merely add the present note, believing it may be of interest as extending the known range of the species well to the north of its recorded habitat. It may be added to the list of Aradidæ taken about Buffalo, published in the Bulletin of the Buffalo Society of Natural Sciences, Vol. V, p. 181.—E. P. Van DUZEE.

I HAVE to record the capture of *Hydrobius tessellatus* Ziegl. at Roberts, Chester Co., Pa., on June 19, 1901. I secured one specimen in a rapidly running stream. This interesting beetle, rare at all places, has not before been recorded from this region, so far as I know.—J. CHESTER BRADLEY.

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* It is but fair to state that 18 of these were previously made known by Hagen and Cabot.

Aspidiotus sacchari in Java.—This sugar-cane scale insect was described from Jamaica in 1893. In 1897 (Bull. 6, Tech. Ser., Div. Ent.) I expressed the opinion that that it was introduced from the tropics of the old world, though it has never been found there. I have just received from Dr. L. Zehntner a pamplet entitled De Plantenluizen van het Suikerriet op Java." in which is a full description, with beautiful figures, of *Aspidotus sp.* found on sugar cane on that island. It is with much interest I recognize in this *Aspidiotus sacchari*, now for the first time reported from the eastern hemisphere.

I may add that the insect described and figured in the same paper as *Planchonia sp.* is, in reality, a species of *Antonina*, apparently distinct from the species found on bamboo.—T. D. A. COCKERELL.

Doings of Societies.

A regular stated meeting of the Feldman Collecting Social was held November 20th, 1901, at the residence of Mr. H. W. Wenzel, 1523 S. 13th Street, Philadelphia.

Twelve members present. Visitors: Mr. Stewardson Brown, of this city, and Mr. E. A. Schwarz, of Washington. The president, Mr. Charles W. Johnson, in the chair. The minutes of the last meeting were read and approved. Professor Smith recorded *Tenodera sinensis* from Elizabeth, N. J., but could not find any egg masses.

Mr. Laurent stated that last year all the female *Tenodera* which he had seen had green wings, but this year he had found a number with the wings shaded brown like those of the males.

Dr. Skinner stated that the eggs of *Tenodera* hatch in June and the young mature in the latter part of September or the early part of October. He also exhibited a butterfly which he had captured in Sapello Canon, New Mexico, he was inclined to consider it only an aberation of *Melitæa nubigena*.

Mr. Seiss exhibited four new species of Hemiptera which Mr. Laurent had taken at South Jacksonville during his last trip in Florida.

Mr. Daecke exhibited a specimen of an undescribed species of *Somatochlora* which had been taken July 16th at Dacosta, N. J. This is the second specimen known, the first having been taken by Dr. Calvert in 1892. He also records *Sympetrum albifrons* taken at Belleplain, N., September 16th, 1901. Previous records were from Massachusetts, Georgia, Missouri,

Texas, Illinois and Indiana. He also exhibited a specimen of *Gomphus nævius* from Castle Rock, Delaware County, Pa., which has never before been taken in the vicinity of Philadelphia.

Mr. Schwarz spoke of the abundance of dragonflies in Arizona around the water which was obtained from artesian wells, and wherever there was a little pool of water it teemed with insect life. He stated that at the top of the Grand Canon the fauna was boreal and ended abruptly at the brink ; at the bottom were large forests and a great deal of vegetation existed and the fauna was tropical. The dragonflies seemed to be the only insects flying from the bottom to the top of the canon, which is about forty miles wide and one mile deep.

Professor Smith stated that the species which he had recorded from New Jersey as *Epicauta callosa* was *Epicauta batesii*.

Mr. Laurent stated that owing to the fact that the streets and roads in the vicinity of Miami, Florida, were constructed of the white coral formation that underlies this part of Florida, if was very trying on the eyes when the sun shines, and to get relief he generally wore smoked glasses while travelling on the roads. He exhibited a large series of photographs which he had taken around Miami, and showed the wood from which he had raised specimens of *Lagochirus araneiformis* Linn., a rare *Cerambycid*.

Mr. Schwarz said he thought longicorns laid their eggs singly, but recently received them in large clusters. He also stated that in Arizona a party made a collection of micro-lepidoptera, and, not having the necessary small pins, they substituted the spines of a cactus which was growing in the vicinity, he thought they might turn out to be better than insect pins, because they do not corrode.

Mr. Johnson exhibited specimens of *Apocephalus pergandei*, the fly found in the ant's nest, and mentioned at the last meeting. The ant proved to be *Camponotus ferruginea*.

A resolution was passed and seconded to hold the minutes over for publication until they had been read at the next meeting, for further correction. Passed. Mr. Wenzel moved that

a vote of thanks be given to the secretary for the able manner in which he entertained the members of the social at the last meeting. Passed.—Wm. R. Reinick, *Secretary*.

A meeting of the Entomological Section of the Academy of Natural Sciences of Philadelphia was held November 21st, Mr. Philip Laurent, Director, in the chair. Fifteen members and associates were present.

Mr. Herman Horing presented a collection of blown larvæ, Mrs. Chas. Schaffer a small collection of insects from Glacier, B. C., and Mr. Lancaster Thomas a number of insects from Tennessee and North Carolina.

Dr. Philip P. Calvert exhibited the dragonflies collected by Dr. Skinner in Sapello Canon, New Mexico. The species are mostly of wide distribution. *Lestes disjunctus* extends from the Atlantic to the Pacific. *Enallagma calverti* is also rather widely distributed. *Ischnura verticailis* is a common eastern species. *Æschna clepsydra* is a circumpolar species and New Mexico is the southernmost place from from which it has been recorded. *Æschna multicolor* is a common western species. There was a species of *Argia* which is probably new. Mr. Seiss said he had been presented with a specimen of *Anasa armigera* which had an abnormal, peculiarly spiked antennæ, but in other respects the specimen was normal.

Mr. Viereck showed specimens exhibiting remarkable resemblance between some Braconids and certain Hemiptera from British Guiana.

Mr. Huntington remarked that the specimen of *Sphyracephala brevicornis* exhibited at the last meeting came from Ithaca, New York, a locality with no skunk cabbage near by. It usually occurs about this plant.

Mr. Laurent exhibited alcoholic specimens of the early stages of *Tenodera sinensis* and also some spread specimens of the adults.

Dr. Calvert spoke of the classification of the smaller dragonflies. He thought that they should be arranged in families according to their evolutionary development. *Calopteryx* represents the oldest type and the Agrions probably come next. The venation was considered the best guide for this purpose.

The venation in the legions proposed by Dr. Selys was explained and illustrated. The speaker also called attention to the wings of the nymph of *Tenodera sinensis*, which he compared to those of an Odonat, and pointed out the differences.

Carl W. Fenninger, George M. Greene and Dr. W. M. Van Atter were elected associates of the section.

HENRY SKINNER, *Recorder.*

The nineteenth regular meeting of the Harris Club was held at 35 Court St., Boston, on the evening of September 20, 1901. President Newcomb presided, and sixteen persons were present. Mr. Harry Mitchell was unanimously elected to membership.

Mr. Newcomb entertained the club with an account of the discovery and capture of *Chionobas katahdin* n. sp. in June last, and later exhibited some interesting portions of the colection of Lepidoptera made by the late A. F. Chatfield.

On behalf of Mr. A. H. Clark, Mr. Newcomb reported the occurrence of *Papilio cresphontes* in Newtonville, Mass., September 13th.

Mr. Low exhibited a fine specimen of *Anartia jatrophæ* captured on Atlantic Ave., Boston, near the fruit wharves, June 29th.

The twentieth regular meeting was held on the evening of October 18, 1901. President Newcomb presided, and nineteen persons were present. Messrs. Oliver B. Coe and C. L. Schwartz were unanimously elected to membership. It was voted that hereafter the regular meetings should be held on the second Tuesday of each month.

Butterflies of the genus *Argynnis* were exhibited and discussed by various members. Mr. R. W. Denton called attention to the fact that the males in this genus are usually distinguished by the fringe of long hairs close to the subcostal vein of the hind wing.

Mr. Kirkland spoke of finding the English scale insect, *Asterodiaspis quercicola*, on imported English golden oaks in the Middlesex fells. It appears to be spreading to the native

white oaks. It is very difficult to kill, the ordinary contact insecticides, such as whale-oil soap, kerosene emulsion, etc., having little effect. There is reason to hope, however, that it will not multiply to an injurious extent, since it is accompanied by its natural check, a minute hymenopterous insect, which was probably introduced at the same time. Mr. Kirkland showed photographs of the scales on the twigs. The same speaker also showed an interesting hermaphrodite specimen of *Ocneria dispar*, the left half having the characteristic markings of the light ♀, the right half those of the dark ♂.

Mr. A. H. Clark gave an interesting account of some of his adventures on a recent collecting trip in Venezuela.

These notes are taken from the records of Mr. A. P. Hall, secretary *pro tem.*

The twenty-first regular meeting was held on the evening of October 12th. President Newcomb presided, and fourteen persons were present. Mr. F. S. Cutting was unanimously elected to membership.

Exhibits of butterflies of the genera *Melitæa* and *Phyciodes* were made by various members.

Mr. W. L. W. Field exhibited two specimens of *Chionobas katahdin* which were captured by Mr. M. L. Fernald, of the Gray Herbarium of Harvard University, in the course of his botanical exploration of the mountain in 1900.

Mr. Morse discussed the use of blocks of standard sizes in the arrangement of museum collections, and Mr. Clark concluded his account of his South American experiences.

W. L. W. Field, *Secretary.*

Minutes of meeting of the Brooklyn Entomological Society held at the residence of Mr. George Franck, 1040 DeKalb Avenue, Brooklyn, N. Y.

December 6, 1900.—Twenty-two persons present. President John B. Smith in the chair. Mr. Gustav Beyer was reinstated as a member. Thirteen new members were elected.

Mr. Wasmuth exhibited a fine aberration of *P. philenor*, the nearly matured larva of which had been captured by him

in front of his residence in Brooklyn, and which emerged about September 15th last. On both the upper and under sides of the wings there appeared a deep border of sagittate or subguadrate indentations caused by the invasion of the interior by the white marginal lunules to such an extent as to entirely or nearly comprehend the submarginal white spots, with more or less diffusion, particularly at the apex. Mr. Wasmuth stated that there was nothing in the appearance of the larva nor its subsequent treatment, so far as he was aware, to cause the deviation. It bears the same relation to *philenor* that *calverleyi* does to *asterias*. Mr. Wasmuth also exhibited a nearly full-grown larva of *P. asterias* which he had taken during the present month feeding on parsley, and which, favored by the absence of snow, had survived the frosts.

Mr. Franck exhibited some light and dark forms, with intergrades of *Halisidota cinctipes* and *edwardsii* from Vera Cruz, Mexico, and Colorado, and claimed that these species should be considered identical.

January 3, 1901.—Tweniy-six persons present. President Smith in the chair. Prof. Frank F. Harding was elected a member.

Paper by Mr. E. L. Graef, on the history of the several associations which had finally resulted in the organization of the Brooklyn Entomological Society, together with some facts relating to the efforts of the society to promote the purposes of its organization. At first it was particularly difficult to obtain identification of species in the Lepidoptera, because so many were undescribed, and his friends and himself were several times greatly disgusted on discovering that some of the entomological wiseacres to whom they applied for aid made a practice of manufacturing names *ad libitum* without regard to existing nomenclature.

Paper by Prof. Smith, upon the Development and Spread ot Entomology in Recent Years, showing that this branch of science has kept pace with the general progress which has made the nineteenth century unparalleled in history. This was particularly in the growth and general diffusion of entomological learning and literature, the improvement in system-

atic investigation and the establishment of experiment stations. The demand for skilled entomologists was for a time greater than the supply, and the enormous increase in the number of well-identified and more or less extensive collections both public and private made the work of professional and amateur much easier.

February 7, 1901. — Twenty persons present. President Smith in the chair. Messrs. W. D. Kearfoot and F. E. Watson were elected members.

Letter from Prof. F. G. Schaupp, a former member of the society, relating the collecting experiences of his boyhood days in Germany, and the nomenclature adopted by himself and his companions to distinguish some of the familiar forms.

Paper by Mr. Geo. Franck upon collecting *Catocala* and and *Argynnis diana* at Evansville, S. Ind. Despite a brief but violent storm which ditched his horse and wagon, scattering his implements and thoroughly drenching him, he captured in a piece of virgin forest, in a few hours, hundreds of specimens of *Catocala* embracing 38 species, many of them rare, with fine variations. Near the same locality, on the following day, he took 20 ♀ *Argynnis diana*. They were readily taken, being sluggish in flight and not easily disturbed.

Mr. Jacob Doll recalled his finding *Catocalæ* so numerous at Bayonne, N. J., that in a short time he took 187 specimens, 5 of which were *marmorata*, and including in all 27 species. Also a similar instance in Arizona, where hundreds of specimens clustered on sugar upon 5 or 6 trees, but including only two species, *verriliana* and *chelidonia*. In none of the instances above related were any of the insects to be seen upon the following day, and in subsequent years they were found but rarely in these localities.

Dr. Meeske related his finding these insects fairly plentiful in one piece of woods in Cypress Hills, L. I., upon one day, their total absence the next, and his subsequent discovery of them in a wood at some little distance.

Mr. Weeks suggested that these disappearances might be explained in one case by the fact that these insects are strong and rapid in flight, and probably migrate from place to place,

and in the other that an inordinate multiplication of any one species almost invariably creates a corresponding increase of its parasitic foes, which not only check any surplus production, but may render any species unusually rare for a number of years. Allowances must also be made for climatic influences, and probably not one season in ten was wholly favorable to insect life.

Prof. Smith displayed some *Scolytids*, including specimens of *Dendroctonus* n. sp., *T. Calligraphus* and *cacographus*, *Gnathotrichus materarius* and *Crypturgus alutaceus*, taken in or under pine bark at Lahaway, N. J., on November 21, 1900, also portions of the burrowed bark showing that it was possible to identify the species by the larval galleries. Whenever a pitch patch appeared on the exterior, *Dendroctonus* in the last three stages would generally be found. *Gnathotrichus materarius* did not tunnel in the bark, but made deep and intricate galleries in the wood.

Mr. Franck exhibited a fine series of *Callimonpha lecontei* and *confusa* showing gradations which seemed to prove beyond question the identity of the species.

March 7, 1901.—Twenty-five persons present. President Smith in the chair. Mrs. Annie Trumbull Slosson was reinstated as a member, and Dr. R. Ellsworth Call and Mr. John Frederick Steinbrecher were elected members.

Mr. Wm. Beutenmuller, President of the New York Entomological Society, exhibited some interesting colored lantern slides of local lepidoptera with larvæ photographed in natural positions upon their respective food plants. Discussion approbative of this method by Messrs. Call, Smith, Frank and Weeks.—ARCHIBALD C. WEEKS, *Recording Secretary.*

The regular quarterly meeting of the California Entomological Club was held on the evening of November 15, 1901, at the residence of the President, Chas. Fuchs, 212 Kearney St., the members being his guests. The meeting was called to order at 8 o'clock by President Fuchs. The minutes of the last meeting were read and approved.

The reading of Prof. H. C. Fall's paper on the Coleoptera

of Southern California then followed. It was discussed by Messrs. Letcher, Ehrhorn, Grundel, Fuchs and Blaisdell.

It was agreed that an interfaunal line should be decided upon, separating Northern and Central California. The migration of insects was discussed by Messrs. Letcher and Ehrhorn in particular.

It was finally agreed that each member of the club should consider himself a member of a committee to look up and report on the distribution of insects, especially the order in which he is interested, for the purpose of correlating such distribution with certain geographical boundaries, as may be best for on interfaunal line, and to report at the next meeting of the club.

Mr. Letcher then presented the following resolution, which was read and unanimously accepted:

Resolved: That the California Entomological Club recognizes the value of Prof. H. C. Fall's contribution to our knowledge of the Coleoptera of California, and that, on behalf of the entomologists of the State, our thanks for his work are extended.

Dr. Blaisdell then read a paper on the Frons in *Bembidium*, with descriptions of five new species from California.

F. E. Clark exhibited a block of Hymenoptera and Diptera collected about Napa, Cal.; Edward Ehrhorn, three large photographs of Exotic Scarabæidæ; Dr. Blaisdell, ink drawings of *Bembidium inæquale*, *littorale* and *punctatostriatum*, of the larva and pupa of *Cicindela 12-guttata*, pupa of *Eleodes dilaricornis* and mouth parts of *Platynus brunneomarginatus;* Mr. Fuchs, two boxes of Scarabæidæ; Mr. Nunenmacher, a box of native and exotic Coccinellidæ, and Mr. Grundel a specimen of *Lycæna sonorensis* collected near Alma, Santa Clara County, California.

Then followed a debate by Messrs. Letcher and Ehrhorn on the effect of altitude on the variation of species.

Eleven members and three visitors present. Seven new members were elected.

Social discourse. Adjournment.

F. E. BLAISDELL, M.D., *Secretary.*

EXCHANGES.

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☞ These notices are continued as long as our limited space will allow; the new ones are added at the end of the column, and only when necessary those at the top (being longest in) are discontinued.

Identification of Insects (Imagos) for Subscribers.

Specimens will be named under the following conditions: 1st, The number of species to be **limited to twenty-five** for each sending; 2d, The sender to pay all expenses of transportation and the insects to become the property of the American Entomological Society; 3d, Each specimen must have a number attached so that the identification may be announced accordingly. Exotic species named only by special arrangement with the Editor, who should be consulted before specimens are sent. Send a 2-cent stamp with all insects for return of names. **Please put date of capture and exact locality on each specimen.** Before sending insects for identification, read page 41, Vol. III. Address all packages to ENTOMOLOGICAL NEWS, Adademy Natural Sciences, Logan Square, Philadelphia, Pa.

Lepidoptera.—I will give in exchange for Lepidoptera from United States, Canada and Mexico in papers—good specimens in papers from all other parts of the world. I can use only first-class quality—named. Send list of duplicates to Wilhelm Neuburger, Lepidopterist, Berlin, S. Luisenuper 45 Germany.

Lepidoptera.—I have some specimens in papers of the rare and beautiful *Ampelophaga versicolor* which I will exchange for live pupæ of all kinds —Charles F. Timm, 48 Ralph St., Brooklyn, N Y.

Exchange.—Lepidoptera N. A. for exchange for other N. A. specimens new to my collection. Send lists to Otto Buchholz, 602 Adams Avenue, Elizabeth. N. J.

Smith's List.—I have a good copy to exchange for any books on Lepidoptera not in my library.—H. H. Newcomb, 35 Court St., Boston, Mass

Will give 50 different beetles from my list for No. 6478*a* or 6389. Will exchange Coleoptera. B. Nock, 70 Sackett St., Providence, R. I.

Lepidoptera.—Good specimens of *Arg. chitone, platina, snyderi, rupestris; Lim. weidemeyerii; Sat. paulus; Thecla crysalus, californica, itys; Pseudohazis hera* and others collected in Utah the past summer to exchange. Desiderata Lepidoptera new to my collection especially *Colias*. Send lists to L. I. Holdredge, Science Dept. Hudson High School Hudson, N. Y.

Wanted.—Vol. X., No. X., of ENT. NEWS. Liberal cash price or exchange in Lepidoptera, as preferred.—R. Ottolengui, 115 Madison Ave., New York.

Exchange.—Lepidoptera and Coleoptera for exchange. Cash or exchange given for Nos. 3010, 3014, 3018, 3019, 3020, 3021, 3022, 3025, 3029, 3031, 3032, 3033, 3034 (of Smith's List), and other rare catocalas.—P. C. Truman, Volga, South Dakota

Hymenoptera.—From New England to exchange for same from south or west. Check-list of R. I. Coleoptera to exchange for entomological pamphlets.—C. Abbott Davis, Providence, R. I.

Lepidoptera.—From any country desired. Liberal exchange. Especially for Sphingidæ and Arctiidæ, unamed material taken. Pupæ of N. A. Heterocera desired.—Henry Engel, P. O. Box 369. Pittsburg, Pa.

Wanted.—Ants from all parts of the world by exchange. Entomological Department, Sacred Heart College, Prairie du Chien, Wis.

Lepidoptera for exchange. *Argynnis diana, Cal. borealis, Cat. haplanga, lacrymosa* and many others. Also live pupæ of nearly all the Sphingidæ found in this locality. Rare Catocalas and Ex. Papilios especially desired.—Herman J. Erb, 322 E. 13th St., N. Y.

Lepidoptera.—Exchange *Cal. præclara, C. whitneyi, C. lutcana, relicta* and many others. Also some other good Noctuids, live pupæ of *Parasa cloris, Logoa crispata* and others. *Catocala badia* especially desired.—Wm. Rienecker, 66 Nelson Ave., Jersey City, N. J.

Exchange.—Coleoptera in papers with data, send lists.—Rev. J. C. Warren, Pike, N. Y.

Dragonflies.—I have a number of N. Am. Duplicates to exchange; wish female *Enallagmas* especially.—E. B. Williamson, Bluffton, Indiana.

Orthoptera.—Wanted, specimens and literature for cash or exchange. Frank E. Lutz, Zoological Bdg. University of Chicago, Chicago, Ill.

Wanted.—March and June of Entomological News, Vol. xiii, 1897.—F. E. Watson, 974 E. 168th St., New York City.

Exchange.—Thousands of moths and butterflies for native or exoctic. Want *Calocala* moths especially. Send lists to Joseph H. Reading, 775 N. Rockwell St., Chicago, Ill.

Exchange.—Butterflies of this neighborhood for those not in my collection. Have also a number of chrysalids of *Feniseca tarquinius* for exchange.—Wilmon Newell, Wooster, Ohio.

Wanted.—January number of Vol, ix. 1898, Entomological News.—A Stewart, Librarian, West Virginia Agric. Exper. Station, Morgantown, W. Va.

Lepidoptera.—Exchange desired with collectors from all parts of the United States and Canada. Especially for mounted specimens. Correspondence solicited in both English and German.—A. Kwait, 701 Larrabee St., Chicago, Ill.

Wanted.—Complete sets, Insect Life; Psyche; Riley's Missouri Reports; also Entomological Magazines, Bulletins or books not in my library. Send lists with lowest cash price, or will give good exchange in native and exotic Lepidoptera.—W. D. Kearfott, 91 Liberty Street, New York City.

Coleoptera.—*Saperla* wanted, named or unamed. Especially from the Western States. Will give good exchange or pay cash. Also ask the loan of material in this genus for study.—L. H. Jontel, 164 E. 117th St, New York.

Lepidoptera Wanted.—Collectors in all parts of the world. Cash for Disiderata. Correspondence in French, German and Spanish.—C. Hoag, Decorah, Iowa.

I have bred specimens of *Saperda puncticollis, concolor, lateralis* and *discoidea; Elasmocerus terminatus; Ichnealaticornis; Melasis pecticomis; Fornax orchesides*, etc. Want *Saperda cretata* and *tridentata* and other Cerambycidæ and Cleridæ.—L. H. Joutel, 164 E. 117th St, N. Y.

Desires Papilionid, Cicindelidæ, Cycrini and Cetonidæ of the world, either by purchase or exchange.—Geo. A. Ehrmann, 2314 Sarrh Street, Pittsburgh, Pa.

Wanted.—Perlidæ and the immature stages of aquatic insects generally. I will make determinations where possible, and give exchanges, when desired.—James G. Needham, Lake Forest, Ill.

Cash or good exchange given for no. 3. vol. ii. and no. 1, vol. iii, of Papilis, and vols. i, ii and iii of Bulletin Brooklyn Ent. Soc.—H. H. Newcomb, 35 Court Street, Boston, Mass

Lepidoptera.—*Catocala, badia. praeclara*, etc; also other Noctuids in exchange for specimens new to me.—Geo. Kircher, 573 Germania Avenue, Jersey City Heights, N. J.

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